

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed January 27, 2006. Claims 1-19, 21-25, and 27-29 remain pending in the present application. Reconsideration and allowance of the application and pending claims are respectfully requested.

1. Response To Rejections of Claims Under 35 U.S.C. §102

Claims 1-5, 7, 9, and 11 have been rejected under 35 U.S.C. §102(b) as being anticipated by *Chong* (U.S. Patent No. 6,093,330). Claims 1-9, 11, 14-19, 21-25, 27, and 29 have been rejected under 35 U.S.C. §102(b) as being anticipated by *Kawamura* (U.S. Patent No. 6,019,907). Claims 1-5, 7-12, 14-19, 21-25, 27, and 29 have been rejected under 35 U.S.C. §102(e) as being anticipated by *Milligan* (U.S. Patent No. 6,555,480). Claims 1-9, 11-12, 14-19, and 21-25 have been rejected under 35 U.S.C. §102(e) as being anticipated by *Soik* (U.S. Patent No. 6,745,469).

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed subject matter must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. §102(e). In the present case, not every feature of the claimed subject matter is represented in the cited references. Applicants discuss the cited reference and Applicants' claims in the following.

a. Independent Claim 1

As provided in independent claim 1, Applicants claim:

A method comprising:
forming a plurality of slot portions in a top surface of a substrate; and,
etching a trench in a back surface of the substrate contiguous and in fluidic communication with the plurality of slot portions to form a compound slot such that at least one reinforcement structure extends across the compound slot to connect substrate material on opposite sides of the compound slot, wherein the at least one reinforcement structure connects with the top surface of the substrate.

Applicants respectfully submit that independent claim 1 is allowable for at least the

reason that the cited art in the multiple §102 rejections does not teach or suggest all of the claimed features.

Regarding *Chong*, it fails to teach or suggest at least a trench is formed in a back surface of a substrate, where the trench is contiguous with an in fluidic communication with a plurality of slots formed in the top surface of the substrate. See FIG. 15.

Regarding *Kawamura*, it fails to teach or suggest at least a trench is in fluidic communication with a plurality of slots. See FIG. 6D.

Regarding *Milligan*, it fails to teach or suggest at least a reinforcement structure extends across the compound slot to connect substrate material on an opposite side of the compound slot, wherein the at least one reinforcement structure connects with the top surface of the substrate. See Fig. 2B.

Regarding *Soik*, it fails to teach or suggest at least a reinforcement structure connects with the top surface of the substrate. See FIG. 11 which shows a bottom view of a portion of screen media and not the top view.

As a result, the respective cited references does not teach or suggest at least all of the claimed features of claim 1. Therefore, claim 1 and claims 2-13 (which depend therefrom) are not anticipated by the cited art in the multiple §102 rejections. The rejection should be withdrawn for at least this reason alone.

b. Independent Claim 14

As provided in independent claim 14, Applicants claim:

A method comprising:

forming a plurality of slot portions into a first surface of a substrate wherein the substrate has a thickness defined between the first surface and a generally opposing second surface; and,

exposing both the first and second surfaces of the substrate to an etchant sufficient to remove substrate material to form a compound slot having a fluidic relationship with the first and second surfaces while retaining substrate material comprising at least one reinforcement structure extending across the compound slot to connect substrate material on opposite sides of the compound slot, the substrate being stronger in bending in or out of a plane of at least a portion of a first surface of the substrate than if said at least one reinforcement structure were not present and the at least one reinforcement structure connecting with the top surface of the substrate.

Applicants respectfully submit that independent claim 14 is allowable for at least the

reason that the cited art in the multiple §102 rejections does not teach or suggest all of the claimed features.

Regarding *Kawamura*, it fails to teach or suggest at least a compound slot is in fluidic relationship with first and second surfaces of the substrate. See FIG. 6D.

Regarding *Milligan*, it fails to teach or suggest at least a reinforcement structure extends across the compound slot to connect substrate material on opposite sides of the compound slot, wherein the at least one reinforcement structure connects with the top surface of the substrate. See Fig. 2B.

Regarding *Soik*, it fails to teach or suggest at least a reinforcement structure connects with the top surface of the substrate. See FIG. 11 which shows a bottom view of a portion of screen media and not the top view.

As a result, the respective cited references does not teach or suggest at least all of the claimed features of claim 14. Therefore, claim 14 and claims 15-19 (which depend therefrom) are not anticipated by the cited art in the multiple §102 rejections. The rejection should be withdrawn for at least this reason alone.

c. **Independent Claim 21**

As provided in independent claim 21, Applicants claim:

A method comprising:

forming a plurality of slot portions into a first surface of a substrate wherein the substrate has thickness defined between the first surface and a generally opposing second surface, adjacent slot portions being separated by substrate material; and,

forming a trench portion into the second surface in contiguous and fluid flowing relation with the slot portions, the trench portion in combination with the slot portions defining a compound slot, wherein said forming a trench portion removes substrate material to define a reinforcement structure extending across the compound slot to connect substrate material on opposite sides of the compound slot and having a terminus proximate the second surface comprising at least two angled walls, wherein the reinforcement structure connects with the first surface of the substrate

Applicants respectfully submit that independent claim 21 is allowable for at least the reason that the cited art in the multiple §102 rejections does not teach or suggest all of the claimed features.

Regarding *Kawamura*, it fails to teach or suggest at least a trench is in fluid flowing

relation with a plurality of slots. *See* FIG. 6D.

Regarding *Milligan*, it fails to teach or suggest at least a reinforcement structure extends across the compound slot to connect substrate material on opposite sides of the compound slot, wherein the at least one reinforcement structure connects with the top surface of the substrate. *See* Fig. 2B.

Regarding *Soik*, it fails to teach or suggest at least a reinforcement structure connects with a first surface of the substrate where the plurality of slots are formed. *See* FIG. 11 which shows a bottom view of a portion of screen media and not the top view.

As a result, the respective cited references does not teach or suggest at least all of the claimed features of claim 21. Therefore, claim 21 and claims 22-25 (which depend therefrom) are not anticipated by the cited art in the multiple §102 rejections. The rejection should be withdrawn for at least this reason alone.

d. Independent Claim 27

As provided in independent claim 27, Applicants claim:

A print cartridge substrate forming method, comprising
forming a plurality of slot portions into a first surface of a substrate the
substrate has a thickness defined the first surface and a generally opposing
second surface; and,

exposing both the first and second surfaces of the substrate to an
etchant sufficient to remove substrate material to form a compound slot
having a fluidic relationship with the first and second surfaces while retaining
substrate material comprising at least one reinforcement structure extending
across the compound slot to connect substrate material on opposite sides of
the compound slot, the substrate being stronger in bending in or out of a plane
of at least a portion of a first surface of the substrate than if said at least one
reinforcement structure were not present and the at least one reinforcement
structure connecting with the top surface of the substrate.

Applicants respectfully submit that independent claim 27 is allowable for at least the
reason that the cited art in the multiple §102 rejections does not teach or suggest all of the
claimed features.

Regarding *Kawamura*, it fails to teach or suggest at least a compound slot is in fluidic
relationship with first and second surfaces of the substrate. *See* FIG. 6D.

Regarding *Milligan*, it fails to teach or suggest at least a reinforcement structure
extends across the compound slot to connect substrate material on opposite sides of the

compound slot, wherein the at least one reinforcement structure connects with the top surface of the substrate. *See Fig. 2B.*

As a result, the respective cited references does not teach or suggest at least all of the claimed features of claim 27. The rejection should be withdrawn for at least this reason alone.

e. Independent Claim 29

As provided in independent claim 29, Applicants claim:

A fluid-ejecting device forming method comprising:
 forming a plurality of fluid-handling structures over a first surface of a semiconductor substrate;
 removing material from the substrate sufficient to form a plurality of slot portions in the substrate, the plurality of slot portions having at least one reinforcement structure extending across a slot to connect substrate material on opposite sides of the slot, wherein the at least one reinforcement structure connects with the first surface of the substrate; and,
 etching through at least some of the fluid-handling structures to form a generally elongate trench in the substrate which is in fluid-flowing relation with the plurality of slot portions and is connected to a second surface of the semiconductor substrate.

Applicants respectfully submit that independent claim 29 is allowable for at least the reason that the cited art in the multiple §102 rejections does not teach or suggest all of the claimed features.

Regarding *Kawamura*, it fails to teach or suggest at least a trench connected to a second surface of a substrate is in fluid-flowing relation with fluid-handling structures formed in a first surface of the substrate. *See FIG. 6D.*

Regarding *Milligan*, it fails to teach or suggest at least a reinforcement structure extends across a slot to connect substrate material on an opposite side of the slot, wherein the reinforcement structure connects with the top surface of the substrate. *See Fig. 2B.*

As a result, the respective cited references does not teach or suggest at least all of the claimed features of claim 29. The rejection should be withdrawn for at least this reason alone.

2. Response To Rejections of Claims Under 35 U.S.C. §103

In the Office Action, claim 10 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Kawamura* in view of *Adams* (U.S. Patent No. 6,753,638). Claim 12 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Kawamura* in

view of *Woods* (U.S. Patent No. 6,942,814). It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/steps of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

All of the claimed features of independent claim 1 is taught and suggested by *Kawamura*, as previously discussed. Further, the cited art of *Adams* and *Woods* fails to cure the deficiencies of the *Kawamura* reference in suggesting or teaching all of the claimed features in claims 10 and 12 (which depend from independent claim 1). Therefore, a *prima facie* case establishing an obviousness rejection by the proposed combination of *Kawamura* with either *Adams* or *Woods* has not been made. Therefore, the rejections of claims 10 and 12 should be withdrawn.

CONCLUSION

For at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,


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